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United States Department of Agriculture,

BUREAU OF ANIMAL INDUSTRY.

A. D. MELVIN, CHIEF OF BUREAU.

SERVICE AND REGULATORY ANNOUNCEMENTS.

DECEMBER, 1916.

[This publication is issued monthly for the dissemination of information, instructions, rulings, etc., concerning the work of the Bureau of Animal Industry. Free distribution is limited to persons in the service of the bureau, establishments at which the Federal meat inspection is conducted, public officers whose duties make it desirable for them to have such information, and journals especially concerned. Others desiring copies may obtain them from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents each, or 50 cents a year. A supply will be sent to each official in charge of a station or branch of the bureau service, who should promptly distribute copies to members of his force. A file should be kept at each station for reference.]

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VESICULAR STOMATITIS.

During the early fall of 1916 reports were received from several sources to the effect that a disease involving the mouths and particularly the tongues of horses existed at the concentration remount station in the vicinity of Chicago, Ill. A careful and systematic investigation was immediately inaugurated, which indicated that at this time the disease was confined solely to equines and that the infection could be traced back to similar remount stations at Grand Island, Nebr., and Denver, Colo. At these points horses and mules had been gathered together by agents of the French and English Governments for shipment abroad, and the disease found ideal conditions for its spread among the thousands of these animals closely quartered in barns and pens. As the disease was undoubt-

edly contagious, local quarantines were recommended and enforced. Sick animals were separated from the well, the healthy but exposed were held for eight days before being allowed shipment, infected pens were cleaned and disinfected, and the mouths of sick animals were thoroughly washed with a weak solution of permanganate of potash.

Several weeks later, a livery barn in Chase County, Nebr., became infected as a result of the owner shipping a carload of horses to Denver for Army purposes and the return to the livery barn of several rejected horses. Three or four days later these rejected animals developed the disease, which spread to other horses and one cow in the livery barn. The disease was carried back to several ranches in that vicinity by the ranch horses which had been driven to town by their owners and fed and watered at this public livery barn.

The disease now seems to have reached its most virulent stage, and having affected many of the horses on these ranches, it spread to a number of cattle, but did not involve the hogs which were running in the same pastures.

The spread of the disease to the Chase County district was indirectly brought to the attention of the bureau late in November, when a shipment of cattle from that locality to the Kansas City Stock Yards was found by the bureau inspectors to be affected with lesions in the mouth strikingly similar to those of foot-and-mouth disease. All precautionary measures were immediately taken, outgoing shipments from the yards were stopped, the cars carrying cattle were located and disinfected, and the cattle were traced to their point of origin in western Nebraska. In the meantime experts were sent to the latter point as well as to Kansas City, and a series of careful and comprehensive experiments was immediately inaugurated at those points and also at Washington. As a result of these tests and the reports from the field inspectors, the opinion was reached that the disease in question was not foot-and-mouth disease, but vesicular stomatitis, a contagious disease affecting the mouths of horses, but at times spreading to cattle also.

The most striking lesion of this disease is the occurrence of vesicles or blisters followed by erosions chiefly on the tongue, but also involving other portions of the mouth and occasionally the muzzle. This disease is known in Europe and South Africa and has been observed occasionally in the United States. The present outbreak, however, is the most extensive yet noted in this country. While the disease has not the great economic importance of foot-and-mouth disease, it nevertheless is contagious and causes considerable alarm owing to its close resemblance to the dreaded European disease. Furthermore, it is accompanied by numerous difficulties in making a prompt differentiation and will therefore remain a menace so long as it prevails. For these reasons it is strongly urged that local quarantines to prevent its spread be imposed by State live stock officials in whose territory the disease is found. All owners and handlers of horses, mules, and cattle, particularly liverymen, managers of stock yards, and stockmen, should be directed to separate sick from well animals, clean and disinfect contaminated premises, and have all infected animals appropriately treated.

The opinion that the malady is not foot-and-mouth disease is based on the fact that persistent observation of sick animals has failed to reveal certain typical symptoms which would be expected in an outbreak of foot-and-mouth disease. The drooling, vesicles, and erosions are similar in appearance to those produced by foot-and-mouth disease, but in none of the animals examined in the field has there been found any soreness of the feet, which is a common symptom of foot-and-mouth disease. Moreover, many horses have this particular ailment, and horses have not been observed to contract foot-and-mouth disease in any of the previous outbreaks in the United States. Hundreds of hogs exposed to

the disease and in association with the sick animals in pastures have shown no signs of the malady, and this is regarded as significant, because in the last outbreak of foot-and-mouth disease hogs were as susceptible to foot-and-mouth disease as were cattle. Exposed sheep also fail to show the disease, yet these cloven-footed animals are also susceptible to foot-and-mouth infection. The disease seems to be a local and not a systematic infection like foot-and-mouth disease, and, unlike the latter, it is not ushered in as a rule by any apparent rise of temperature. In a number of cases of vesicular stomatitis the lesions appeared to be continuous or progressive and not explosive, as in foot-and-mouth disease. In these instances secondary lesions were apparent on a number of consecutive days in the mouths of both horses and cattle, and vesicles were observed on the base of tongues whose free portions were almost denuded of mucous membrane as a result of the rupture of similar vesicles six or seven days before. Furthermore, instead of increasing in virulence by passage through a series of calves, as foot-and-mouth disease has always done in our previous experiments, vesicular stomatitis became greatly reduced in pathogenesis and required a constantly increasing period of incubation before manifesting lesions of the disease. Although numerous filtrate experiments have been conducted, in no case has the disease been reproduced in this manner, which is also unlike our experiments with foot-and-mouth disease.

Finally, the percentage of animals infected in each of the herds of cattle, and the history of exposure without transmission of the disease except by immediate contact, would indicate that this ailment is not the highly contagious foot-and-mouth disease which, once it is introduced into a herd, quickly affects practically 100 per cent of the cattle and hogs on all the farms to which the virus may be carried by intermediate agencies.

The result of a preliminary study of vesicular stomatitis suggests the necessity of adding horses to the list of experimental animals (calves and hogs) which must be inoculated with suspected material in any future outbreak of disease bearing a resemblance to foot-and-mouth disease. Various organisms thus far isolated from the contents of ruptured vesicles have in no instance produced the typical disease in either horses or cattle, but the work is still unfinished.

In conclusion it must be apparent, even to the casual reader, that in vesicular stomatitis we have a disease more closely resembling foot-and-mouth disease than either mycotic or necrotic stomatitis, and that Huttyra and Marek are correct in their opinion that a reliable differential diagnosis of this disease can be made only after inoculation experiments and careful observation lasting a number of days.

CHANGES IN DIRECTORY.

Meat Inspection Inaugurated.

- *68. Aronhime Packing Co., Bristol, Va.
- 67. Fairfax Southern Foods (Inc.), 408 West Thirteenth Street, New York, N. Y.
- 1010. C. H. Paxton, Natural Bridge, Va.
- *30. Faribault Packing & Provision Co., Faribault, Minn.

Meat Inspection Discontinued.

- *779. Watertown Packing Co., Watertown, S. Dak.
- 800. The Misses Gregory Co., 30½ Lafayette Street, Newark, N. J.
- *19P. Cudahy Packing Co., 226 K Street SW., Washington, D. C.

660. The Vermont Manufacturing Co., 17 Jackson Street, Providence, R. I.
958. I. H. Sentz, 1002 North Franklin Street, Chicago, Ill.
55. E. W. Sage & Co., 118 Albany Avenue, Hartford, Conn.
986. The Elmore Live Stock Co., Peoria, Ill.
*164. Greeneville Packing Co., Greeneville, Tenn.

Meat Inspection Temporarily Suspended.

1007. The Haserot Canneries Co., Forestville, N. Y.
*946. St. Joseph Live Stock Serum Co., South St. Joseph, Mo.
*961. Farmers' Serum Co., Granite City, Ill.
*1000. The Universal Serum Co., First Street and St. Clair Avenue, East St. Louis, Ill.
427. Richardson & Robbins Co., Dover, Del.

Change in Name of Establishment.

- *8. A. L. Brown, and extended to include A. L. Brown Farm, instead of A. L. Brown Farm.

Changes in Addresses of Establishments.

- 12D. Kingan Provision Co., 350-352 North Holliday Street, Baltimore, Md., instead of 355 Guilford Avenue.
110. The High Grade Shortening Co., 2600 Block Hafer Street, Baltimore, Md., instead of 19 Hafer Street.
663. Reinicker & Alvey, 3310 Harford Avenue, Baltimore, Md., instead of Harford and Montebello Avenues.

Stations Added.

- Bristol, Va., meat inspection, Dr. J. B. Hill, care Aronhime Packing Co.
Natural Bridge, Va., meat inspection (substation of Richmond, Va.).
Faribault, Minn., meat inspection, Dr. D. C. Collins, care Faribault Packing & Provision Co.

Stations Discontinued.

- Forestville, N. Y., meat inspection (substation of Buffalo, N. Y.).
Granite City, Ill., meat inspection (substation of National Stock Yards, Ill.).
Dover, Del., meat inspection (substation of Philadelphia, Pa.).

Change of Official in Charge.

- Dayton, Ohio, Dr. A. F. Staub, instead of Dr. F. L. Gardner.

Changes in Addresses of Officials in Charge.

- Dr. A. Salinger, 210 Post Office Building, New Brunswick, N. J., instead of 421 Essex Building, Newark, N. J.
Dr. J. S. Grove, 215 Exchange Building, Stock Yards Station, Oklahoma, Okla., instead of 310 Federal Building.

Notes.

Remove name of Dr. H. W. Hawley, 104 West Forty-second Street, New York, N. Y.

Inspection extended at establishment *20C, Wilson & Co. (Inc.), to include Wilson & Co.; and at establishment 12D. Kingan Provision Co., and P. T. George & Co., to include Kingan & Co. (Ltd.).

NOTICES REGARDING MEAT INSPECTION.**SALT SHOULD BE CLEAN.**

All salt or solutions thereof used in direct contact with meat or meat food product should be clean and handled in a cleanly manner. The presence of a small amount of insoluble mineral matter in salt is not alone sufficient to prohibit its use, provided the salt is from a clean source and has been properly handled. However, when inspectors are familiar with insanitary conditions surrounding the source of a salt or have knowledge that it has been handled in an unclean manner, its use in the preparation of meats and products should be prohibited.

TARE AND NET WEIGHT.

The word "tare," as used in connection with statements of the weight placed on containers of meat or meat food products, is held to represent the weight of all containers, including immediate wrappings and paper linings as well as outside or shipping containers. The word "net" is held to represent the weight of the meat or product exclusive of any wrappings or linings. Accordingly, in instances where hams, sides, strips of bacon, loins of pork, and similar cuts of meat are wrapped with paper or cloth, the words "tare" or "net" should be omitted from both shipping and true containers, unless the statement following the word "tare" includes the weight of the wrapping and the statement following the word "net" represents only the weight of the meat exclusive of the wrappings.

When wrapped meat or product, which was held in Circular Letter 525 not to be in package form, and in respect to which a petition for a modification is now pending before the department, is placed in outside or shipping containers, no objection will be offered, previous to a conclusion being reached on such petition and notice of the conclusion being given to the application to such shipping containers of unmodified figures representing the weight of the containers exclusive of immediate wrappings and paper linings, or such figures preceded by the terms "box," "barrel," or "basket," as the case may be. Unmodified figures representing the weight of the contents including immediate wrappings may also be applied to such shipping containers.

The foregoing should not be construed as authority to omit the statement of the net weight from containers of food held to be in package form.

RAILROAD TRACKS AND DOCKS.

Some railroad tracks and docks have been found to be in unsatisfactory condition because of improper construction and grades, insufficient drainage, and the accumulation of refuse, which furnish fly-breeding areas and harbors for rats and other vermin, produce foul odors, and cause general insanitary conditions.

Efficient drainage facilities for the loading tracks and docks, and surfaces that can be readily kept clean, are imperative sanitary measures. At some establishments where few cars are handled insanitary conditions may be corrected without incurring great expense by filling under the docks with cinders or other suitable material which will provide a good slope outward, and by raising the tracks and filling between them with the same material, provided

there is sufficient natural slope away from the establishment to allow drainage to run off without nuisance. This simple treatment, however, will not be sufficient at other establishments at which surfacing with concrete, vitrified brick, or similar material is necessary for the maintenance of satisfactory conditions. Surfacing of this kind has been objected to because it was asserted that track levels could not be readily changed or pipes laid if the areas were permanently surfaced. There appears to be no valid reason for changing track levels once they are established; and various types of surfacing, such as vitrified-brick pavement laid with tar joints, meet the objection that the surfacing can not be readily opened up for laying pipes.

Loading docks should be so constructed that they can be kept in a sanitary condition. While the bureau makes no restriction as to the material, such as concrete, vitrified brick, or wood, commonly used to surface them, yet proper drainage of the under-dock space and its maintenance in a sanitary condition free from litter and other objectionable material must be insisted upon. A

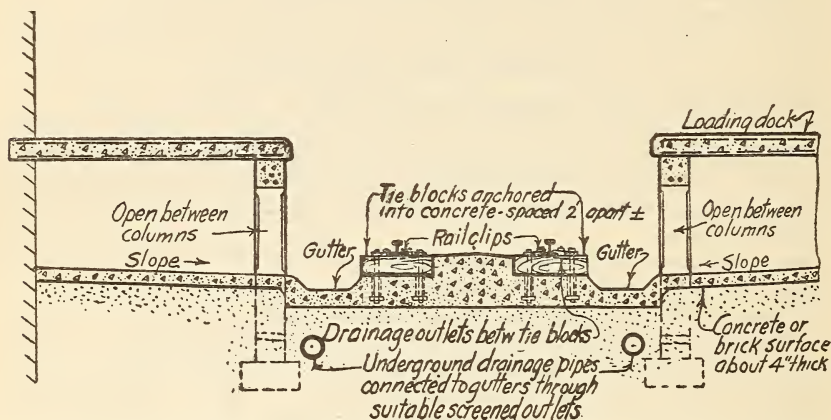


FIG. 1.—Railroad loading track and dock with open side, concrete surfacing and gutters, and rails carried on removable tie blocks.

surface of concrete or brick which can be flushed by hose and kept clean is very desirable beneath docks which have a deck of wood planks laid with cracks through which dirt and organic matter may fall beneath the dock.

As suggestions, three types of railroad loading track and dock are shown herewith. These are presented to show practical and satisfactory ways of correcting the insanitary conditions referred to. Figures 1 and 3 show docks with open sides and figure 2 a dock with closed sides. Each of these types is satisfactory.

Figure 1 is the most satisfactory and the most expensive to install. In this type the rails are carried on removable tie blocks anchored in the concrete so that they can be readily replaced. Track drainage escapes beneath the rail to the side gutters. The cost of upkeep for a track of this kind is considerably less than for a ballasted track similar to that shown in figure 3.

Figure 2 shows the ties buried; therefore they can not be readily replaced; but if the ties are creosoted the life of the wood is greatly prolonged.

The type shown in figure 3 permits of adjustments in track grade and is the least expensive of the three types. It is not strictly sanitary, as the stone ballast may become coated with oil and organic matter which fall upon it. The

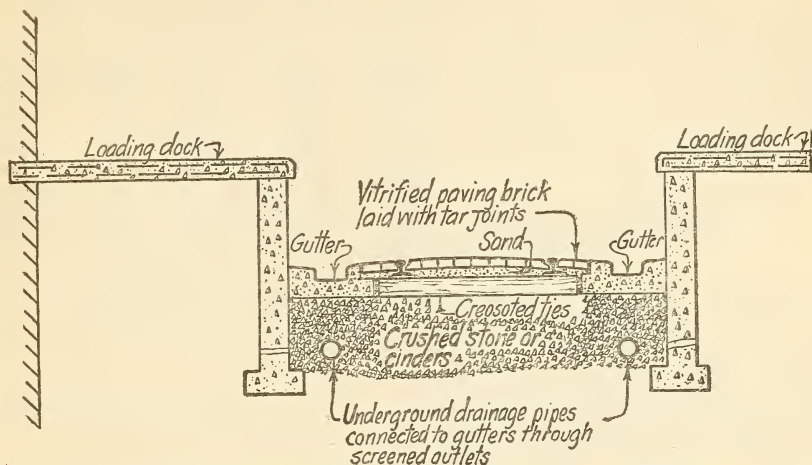


FIG. 2.—Railroad loading track and dock with closed side, vitrified-brick surfacing laid with tar joints, and concrete gutters.

difficulty of keeping track ballast clean has caused its replacement in some instances. This type is included because of its lower initial cost, and because it may be kept satisfactory and permits adjustments of track grade.

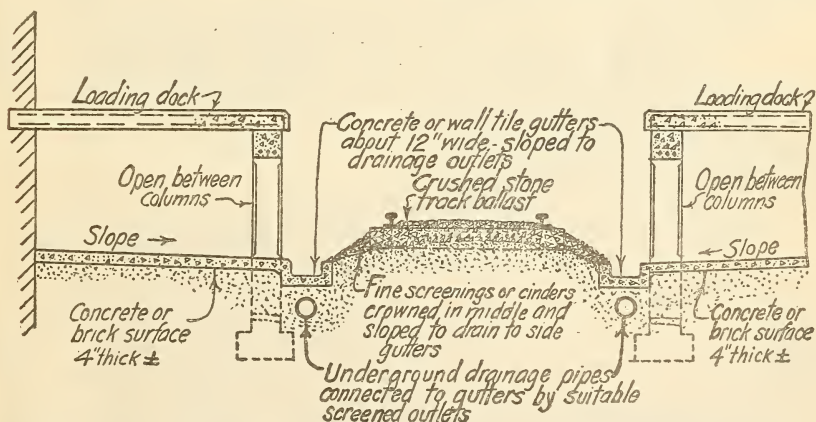


FIG. 3.—Railroad loading track and dock with open side, crushed-stone track ballast, and concrete or wall tile gutters.

It is important that immediate steps be taken to obviate the insanitary conditions of railroad loading tracks and docks wherever such conditions exist at official establishments.

ANIMALS SLAUGHTERED UNDER FEDERAL MEAT INSPECTION, NOVEMBER, 1916.

Station.	Cattle.	Calves.	Sheep.	Goats.	Swine.
Chicago.....	239,619	29,715	363,541	3,228	955,074
Fort Worth.....	50,738	18,199	7,145	2,481	68,982
Kansas City.....	151,264	27,392	76,710	5,177	375,551
National Stock Yards.....	77,978	19,495	24,908	6,742	196,718
Omaha.....	88,790	5,157	165,003	359	191,666
Sioux City.....	25,600	1,684	34,614	.....	140,530
South St. Joseph.....	34,390	3,432	36,982	326	246,859
All other establishments.....	303,422	112,296	411,949	3,830	2,595,233
Total: November, 1916.....	971,801	217,370	1,120,852	22,143	4,770,913
November, 1915.....	702,134	141,400	1,132,499	30,164	3,738,879
11 months ending November, 1916.....	7,466,173	2,182,770	10,908,256	189,020	37,806,563
11 months ending November, 1915.....	6,472,749	1,693,263	11,171,072	141,582	32,939,395

IMPORTS OF FOOD ANIMALS AND OF MEATS AND MEAT FOOD PRODUCTS.

The statements following show the imports of food animals and of meats and meat food products inspected by the Bureau of Animal Industry during November, 1916, with figures for other periods for comparison:

Imports of food animals.

Country of export.	Cattle.	Swine.	Sheep.	Goats.
Mexico.....	20,274	.....	.....	2,714
Canada.....	26,225	118	13,258	.....
Great Britain.....	.....	.....	89	.....
Total: November, 1916.....	46,499	118	13,347	2,714
November, 1915.....	70,785	90	61,919	1,007
11 months ending November, 1916.....	265,192	2,342	117,112	32,169
11 months ending November, 1915.....	536,698	56,672	256,851	97,146

Imports of meats and meat food products.

Country of export.	Fresh and refrigerated.		Canned and cured.	Other products.	Total weight.
	Beef.	Other.			
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Argentina.....	.....	.....	38,964	5,016	43,980
Australia.....	.....	.....	.....	4,480	4,480
Canada.....	1,554,172	250,048	26,649	117,368	1,948,237
Uruguay.....	.....	.....	6,000	.....	6,000
Other countries.....	9,129	.....	21,177	2,866	33,172
Total: November, 1916.....	1,563,301	250,048	92,790	129,730	2,035,869
November, 1915.....	20,824,312	1,308,903	510,464	337,356	22,981,035
11 months ending November, 1916.....	41,263,010	16,867,566	1,588,326	971,051	60,689,953
11 months ending November, 1915.....	125,904,718	14,533,935	4,592,387	1,942,488	146,973,528

Condemned in November, 1916: Beef, 4,360 pounds; veal, 14,443 pounds; pork, 6,207 pounds; total, 25,010 pounds. Refused entry: Beef, 341 pounds; pork, 5,261 pounds; total 5,602 pounds.

LICENSES AND PERMITS FOR VETERINARY BIOLOGICAL PRODUCTS.

Licenses for the manufacture and permits for the importation of veterinary biological products have been issued as follows for the year 1917, under the act of Congress of March 4, 1913 (37 Stat., 832), and the regulations made thereunder (B. A. I. Order 196 and amendment):

Licenses for the manufacture of veterinary biological products, 1917.

License No.	Name and address of firm.	Products.
1	National Vaccine and Antitoxin Institute, 1515 U Street NW., Washington, D. C.	Tuberculin; tetanus antitoxin.
2	The Eagle Serum Co., Third Street and	Antihog-cholera serum; hog-cholera virus.
3	Central Avenue, Kansas City, Kans. H. K. Mulford Co., Glenolden, Pa.	
		Blackleg vaccine; anthrax serum; anthrax vaccine; abortin solution; equine influenza bacterin; polyvalent mixed bacterin; strepto bacterin; coli bacterin; staphylococcus bacterin; tetanus antitoxin; antistreptococcic serum; equine influenza serum; rabies vaccine; abortus bacterin; tuberculin; mallein; white-scours serum; white-scours serobacterin; canine distemper serum; canine distemper serobacterin; antihog-cholera serum; hog-cholera virus; hemorrhagic septicemia bacterin; joint-ill bacterin; equine abortus bacterin; autogenous bacterin; blackleg vaccine (liquid); blackleg serum; abortus serum bovine; abortus serum equine; hemorrhagic septicemia serum; abortus serovaccine (bovine).
4	The Abbott Laboratories, 4735-4757 Ravenswood Avenue, Chicago, Ill.	Polybacterin; staphylo bacterin; blackleg vaccine; strepto bacterin; canine distemper bacterin; canine distemper antitoxic serum; canine and feline mixed infection bacterin; hemorrhagic septicemia bacterin; autogenous bacterin; streptococcus combined bacterin; streptococcus mastitis bacterin; <i>Bacillus abortus</i> bacterin.
6	Pitman-Moore Co., 111-117 North Capital Avenue, Indianapolis, Ind., plant, Zionville, Ind.	Antihog-cholera serum; hog-cholera virus.
7	Mid-West Serum Co., 4901 South Thirty-third Street, Omaha, Nebr.	Do.
9	Lederle Antitoxin Laboratories, Pearl River, N. Y.	Tetanus antitoxin; influenza serum; mallein; tuberculin; blackleg vaccine; rabies vaccine; canine distemper vaccine, prophylactic; canine distemper vaccine, treatment; colon vaccine; equine influenza vaccine; prophylactic; equine influenza vaccine treatment; mixed bacterial vaccine; staphylococcus vaccine; streptococcus vaccine; antianthrax serum; anthrax spore vaccine.
10	The Wichita & Oklahoma Serum Co., Wabash and Twenty-first Streets, Wichita, Kans.	Antihog-cholera serum; hog-cholera virus.
11	Sioux Falls Serum Co., 2000 Wabash Avenue, Sioux Falls, S. Dak.	Do.
12	The Royal Serum Co., Adams and Osage Streets, Kansas City, Kans.	Do.
13	Omaha Serum Co., 77th and Serum Streets, Ralston, Nebr. Office, 2512 O Street, Omaha, Nebr.	Do.
15	C. Rhea Serum Co., 311 Central Avenue, Kansas City, Kans.	Do.
17	Beebe Laboratories (Inc.), 161-163 West Third Street, St. Paul, Minn.	Blackleg vaccine; canine distemper vaccine; anti-abortion vaccine; staphylococcic and streptococcic vaccine combined; anti-influenza vaccine; normal horse serum; tetanus antitoxin; tuberculin; mallein; white scours vaccine; hemorrhagic septicemia vaccine.
18	The Stock Yards Serum Co., 211 Central Avenue, Kansas City, Kans.	Antihog-cholera serum; hog-cholera virus.
21	Continental Serum Laboratories, Muscatine, Iowa.	Do.
22	Accuracy Laboratories, 1724 West Madison Street, Chicago, Ill.	Pneumococcus vaccine; combined staphylococcus vaccine; polyvalent bacterin; <i>Coli communis</i> bacterin; influenza bacterin; streptococcus vaccine; combined streptococcus, staphylococcus, coli, and pneumococcus vaccine; autogenous vaccine.

Licenses for the manufacture of veterinary biological products, 1917—Continued.

License No.	Name and address of firm.	Products.
23	The Missouri Valley Serum Co., 50-62 North Second Street, Kansas City, Kans.	Antihog-cholera serum; hog-cholera virus.
24	The Sihler Hog Cholera Serum Co., Central Avenue and Water Street, Kansas City, Kans.	Do.
25	Inter-State Vaccine Co., 58 Greystone Avenue, Kansas City, Kans.	Do.
26	Kaw Valley Serum Co., Greystone Avenue and Perry Street, Kansas City, Kans.	Do.
27	The Simonson Serum Farm, Hooper, Nebr.	Do.
29	Northern Serum Co., 2001 Leech Avenue, Sioux City, Iowa.	Do.
30	Kansas Serum Co., corner Noon and Green Streets, Manhattan, Kans.	Do.
31	Comparative Vaccine Laboratories (Inc.), 129-133 Grand Avenue, Brooklyn, N. Y.	Vaccine equina; vaccine mixed infection; canine distemper vaccine; Bulgar-Lac.
32	The Standard Serum Co., 11 South Second Street, Kansas City, Kans.	Antihog-cholera serum; hog-cholera virus.
33	.....	.....
34	Peters National Serum Co., South Second Street and Myers Avenue, Kansas City, Kans.	Do.
37	Sioux City Serum Co., Sioux City, Iowa.	Do.
38	The Hueben Serum Co., First and Waverly Streets, Kansas City, Kans.	Do.
39	Purity Serum Co., Sioux City, Iowa.	Do.
	Cedar Rapids Serum Co., 123 Twenty-third Avenue West, Cedar Rapids, Iowa.	Do.
45	C. H. Miner Serum Co., Red Cloud, Nebr.	Do.
46	St. Joseph Live Stock Serum Co., South St. Joseph, Mo.	Do.
47	The Board of Regents of the University of Nebraska, University Farm, Lincoln, Nebr.	Do.
48	Swine Breeders Pure Serum Co., Throntown, Ind.	Do.
49	Slee Laboratories, Swiftwater, Pa.	Tetanus antitoxin.
50	United States Standard Serum Co., Fortieth and Laurel Streets, Office 840 Exchange Avenue, Union Stock Yards, Chicago, Ill.	Streptococcus vaccine, polyvalent vaccine.
51	Union Serum Co., Prospect Street and Chicago Avenue, Sioux City, Iowa.	Antihog-cholera serum, hog-cholera virus.
53	Nodaway Valley Serum Co., Skidmore, Mo.	Do.
56	The Southwestern Serum Co., Twenty-first Street and Lawrence Avenue, Wichita, Kans.	Do.
57	.....	.....
59	Nebraska Serum Co., Fourth and O Streets, Lincoln, Nebr.	Do.
61	Guilfoil Serum Co., 18 North Second Street, Kansas City, Kans.	Do.
63	Elh Lilly & Co., Indianapolis, Ind.	Tetanus antitoxin; rabies virus.
65	Hawkeye Serum Co., South Thirty-sixth Street, Omaha, Nebr.	Antihog-cholera serum; hog-cholera virus.
66	National Serum Co., South St. Paul, Minn.	Do.
67	Shelton Serum Co., Shelton, Nebr.	Do.
68	Dr. James McI. Phillips, 2057 North High Street, Columbus, Ohio.	Rabies vaccine.
70	The St. Joseph Veterinary Laboratories, Ninth and Mary Streets, St. Joseph, Mo.	Antihog-cholera serum; hog-cholera virus.
71	Big O Serum Co., 465 Live Stock Exchange, Kansas City, Mo.	Do.
72	Central Missouri Serum Co., Marshall, Mo.	Do.
73	Federal Serum and Chemical Co., Plainfield, Ind.	Do.
74	Ralston Serum Co., Ralston, Nebr.	Do.
75	Dr. Chas. L. Rea's Serum Co., Lyons Avenue and Water Street, Kansas City, Kans.	Do.

Licenses for the manufacture of veterinary biological products, 1917—Continued.

Licenses No.	Name and address of firm.	Products.
76	Oklahoma Stock Yards Serum Co., 1838 West Hickory Street, Oklahoma, Okla.	Antihog-cholera serum; hog-cholera virus.
77	Corn Belt Serum Co., 215 Winstanley Avenue, East St. Louis, Ill.	Do.
78	Regents of the University of California, Oakland, Cal.	Do.
83	E. R. Squibb & Sons, New Brunswick, N. J.	Tuberculin; mallein; tetanus antitoxin; canine distemper vaccine; canine distemper antiserum; hog-cholera virus; antihog-cholera serum; antirabic virus.
84	Grain Belt Supply Co., 3215 L Street, Omaha, Nebr.	Antihog-cholera serum; hog-cholera virus.
85	The Western Laboratories, Twenty-fourth Street and Broadway, Oakland, (Cal.) Plant, Stockton, Cal.	Antihog-cholera serum; hog-cholera virus; abortus bacterin; polyvalent bacterin; autogenous bacterin.
91	Gregory Farm Laboratory, White Hall, Ill.	Antihog-cholera serum; hog-cholera virus.
93	Slater Serum Co., 20 South Ewing Street, Kansas City, Kans.	Do.
96	The Elmore Live Stock Co., Hog Cholera Serum Department, Peoria, Ill.	Do.
97	Nelson Serum Co., Third Street and Lynch Avenue, East St. Louis, Ill.	Do.
99	The Corn States Serum Co., Forty-fourth Avenue and U Streets, South Side, Omaha, Nebr.	Do.
102	The Lathrop Serum Co., Lathrop, Mo.	Do.
103	Fowler Serum Co., 335 North James Street and Second Street and Splitlog Avenue, Kansas City, Kans.	Do.
104	Swan-Myers Co., 219-223 North Senate Avenue, Indianapolis, Ind.	Equine influenza bacterin (prophylactic, single dose); equine influenza bacterin (prophylactic, triple dose); equine influenza bacterin (mixed); abortion bacterin; bovine hemorrhagic septicemia bacterin; equine colon bacterin; canine distemper bacterin (mixed); polyvalent bacterin (mixed); white scour bacterin (mixed); navel infection bacterin; equine <i>Staphylococcus aureus</i> and <i>albus</i> bacterin; equine <i>Streptococcus pyogenes</i> bacterin; equine pneumonia bacterin (mixed).
107	The Jensen-Salsbery Laboratories (Inc.), 1320-1322 Main Street, Kansas City, Kans.	Abortus bacterin; hemorrhagic septicemia vaccine; streptococcus mastitis bacterin; white scours bacterin; antinfluenza bacterin; strepto bacterin; navel ill bacterin; swine plague bacterin; canine distemper bacterin; staphylococcus bacterin; mixed bacterin; colon bacterin; pneumo bacterin.
108	Universal Serum Co., 101 St. Clair Avenue, East St. Louis, Ill.	Antihog-cholera serum; hog-cholera virus.
110	Sioux Valley Serum Co., 2117 Leech Street, Sioux City, Iowa.	Do.
111	Blue Cross Serum Co., Superior, Nebr.	Do.
112	Fort Dodge Serum Co., Fort Dodge, Iowa.	Do.
113	Bureau of Laboratories, Department of Health, foot East Sixteenth Street, New York, N. Y.	Tetanus antitoxin; tuberculin; mallein.
114	White Serum Co., 1314 Adams Street, Nashville, Tenn.	Antihog-cholera serum; hog-cholera virus.
115	The Denver Hog Ranch Co., Antihog-cholera Serum Department, 5030 York Street, Denver, Colo.	Do.
116	Ottumwa Serum Co., Ottumwa, Iowa.	Do.

Permit for importation of veterinary biological products, 1917.

Permit No.	Name of firm.	Products.
2	Pasteur Laboratories of America, New York, N. Y.	Antianthrax, antitetanic, and antistreptococic sera; tuberculin; mallein; anthrax and fowl-cholera vaccines; septic pneumonia sera; dysentery germ-free extract; fowl-cholera serum; abortiform; polyvalent bacterin; polyvalent and mixed bacterins; polyvalent strepto bacterin; antistrangles and canine distemper sera; blackleg vaccine.

TEXAS-FEVER QUARANTINE—REVISED LIST OF PLACES TO WHICH SOUTHERN CATTLE MAY BE SHIPPED FOR IMMEDIATE SLAUGHTER.

State and Federal permission has been granted for the shipment of southern cattle for immediate slaughter to the following-named places:

Illinois.

Chicago: Union Stock Yards.

East St. Louis: East Side Packing Co.

National Stock Yards: National Stock Yards Co.

Peoria: E. Godel & Sons; Wilson Provision Co.

Springfield: Franz Brothers Packing Co.

Indiana.

Fort Wayne: Fred Eckart Packing Co.

Indianapolis: Brown Brothers; Indianapolis Union Stock Yards Co.; Kingan & Co.; The Indianapolis Abattoir Co.

Muncie: Kuhner Packing Co.

Terre Haute: Home Packing Co.

Iowa.

Ottumwa: John Morrell & Co.

Sioux City: The Cudahy Packing Co.

Kansas.

Frontenac: Menghini Bros. Packing Co.

Kansas City: Kansas City Stock Yards Co.

Pittsburg: Hull & Dillon Packing Co.

Wichita: Wichita Union Stock Yards Co.

Kentucky.

Louisville: Bourbon Stock Yards Co.

Louisiana.

New Orleans (Arabi): Crescent City Stock Yards and Slaughter House Co.

Maryland.

Baltimore: Union Stock Yards.

Massachusetts.

Brighton: Brighton Abattoir Co.

Somerville: New England Dressed Meat and Wool Co.; Sturtevant & Haley Beef and Supply Co.

Michigan.

Detroit: Hammond, Standish & Co.; W. J. Kamman; Kamman Beef Co.; Mason Beef Co.; Michigan Beef Co.; Michigan Central Stock Yards Co.; Newton Beef Co.; Parker-Webb & Co.; Sullivan Packing Co.; W. B. Thompson.

Mississippi.

Natchez: Mississippi Packing Co.

Missouri.

Kansas City: Kansas City Stock Yards Co.
St. Louis: Carondelet Packing Co.; Independent Stock Yards Co.; St. Louis Independent Packing Co.; Swift & Co.
Sedalia: Stephenson Packing Co.
South St. Joseph: St. Joseph Stock Yards Co.; Freund Packing Co.

Nebraska.

South Omaha: Union Stock Yards Co.

New Jersey.

Camden: D. D. Helm.
Jersey City: Armour & Co. (Harsimus).
Newark (Kearny): Swift & Co.

New York.

Albany: Louis Neuhoft.
Buffalo: East Buffalo Stock Yards Co.; Jacob Dold Packing Co.; C. Klinck Packing Co.
New York: Armour & Co.; Moe Frank; New York Butchers' Dressed Meat Co.; Joseph Stern & Sons; Strauss & Adler; Sulzberger & Sons Co.; Swift & Co.; United Dressed Beef Co.

North Carolina.

Wilmington: Sans Souci Abattoir Co.

Ohio.

Ashtabula: F. C. Gerald.
Canton: Canton Packing Co.
Cincinnati: The Union Stock Yards.
Cleveland: Blumenstock Reid Co.; Cleveland Provision Co.; Nick Davis; John Deobald; Eisenman Bros.; J. J. Flick Dressed Beef Co.; Forest City Provision Co.; Hartman Provision Co.; Hughes Provision Co.; Koblenxer Bros.; Lake Erie Provision Co.; Long Dressed Beef Co.; Ohio Provision Co.; Retail Butchers' Protective Association; Teufel Bros.; Theurer-Norton Provision Co.; Henry Walcher; Webb Bros.
West Mentor: F. E. Presley.
West Toledo: N. Rassel Sons Co.; Stautzenbach, Bowers & Taylor.

Oklahoma.

Oklahoma: Oklahoma National Stock Yards.

Pennsylvania.

Allentown: Arbogast & Bastian Co.
Butler: Butler Beef & Provision Co.
Chester: John J. Buckley Co.
Eric: Hiabach Brothers; Schaffner Bros.
Johnstown: Armour & Co.; C. A. Young Co.
Mount Carmel: L. W. Weissinger & Bros.
Philipsburg: Philipsburg Beef Co.
Pittsburgh: Armour & Co.; Dunlevy & Brother Co.; Union Stock Yards Co.
Punxsutawney: Punxsutawney Beef & Provision Co.
Reading: Reading Abattoir Co.
Scranton: Frank Carr; Stowers Pork Packing & Provision Co.
Shamokin: Croninger Packing Co.

Texas.

Fort Worth: Fort Worth Stock Yards Co.

Virginia.

Danville: A. Greenberg.

Norfolk: Banks Bros.; Union Stock Yards Co.

Richmond: Richmond Union Stock Yards; Valentine's Meat Juice Co.

West Virginia.

Wheeling: F. Schenk & Sons Co.

Wisconsin.

Cudahy: Cudahy Bros.

Milwaukee: Plankinton Packing Co.

SUBSTANCE PERMITTED FOR OFFICIAL DIPPING OF CATTLE FOR TICKS.

"Kil-tik," an arsenical dip, is permitted by the department in the official dipping of cattle for ticks. This dip is to be used at a strength of 1 gallon of the dip to not more than 74 gallons of water for the official dipping of cattle for interstate movement. This dilution will yield a solution containing not less than 0.22 of 1 per cent actual arsenious oxid.

PERMITTED DISINFECTANT.

In accordance with the provisions of B. A. I. Order 245, the bureau has granted permission for the use of "Standard Saponified Cresol Solution" as a substitute for compound solution of cresol U. S. P. in the general disinfection of cars, yards, and other premises.

RENDERING REPORTS ON F. I. FORMS 24-C AND 48-C.

With reference to Circular Letter 573, dated March 25, 1915, and section 64 of "Instructions Concerning the Work of the Field Inspection Division," the F. I. Form 24-C and 48-C reports should be rendered so as to show the number of F. I. Form 24 and Form 48 certificates issued, but the serial numbers of the certificates should be omitted.

INSPECTION AND TESTING OF ANIMALS FOR CANADA.

The name of Dr. John J. Hayes, 7 East Forty-second Street, New York, N. Y., has been removed from the list of practicing veterinarians authorized to apply the mallein test to horses, mules, and asses for shipment to Canada.

TUBERCULIN TESTING IN TEXAS.

Reports of all tuberculin tests applied by bureau inspectors in the State of Texas should be forwarded promptly to the Live Stock Sanitary Commission of Texas, 238 Live Stock Exchange Building, Fort Worth, Tex. In case of re-

actors, a copy of the record of the tuberculin test and all special marks of identification should be included in order that the reactor may be placed under a Texas State quarantine.

VIOLATIONS OF LAWS.

Fines and penalties were imposed in prosecutions for violations of regulatory laws as reported to the bureau during the month of December, 1916, as follows:

Twenty-Eight-Hour Law.

Lehigh Valley Railroad Co. (2 cases), \$300 and costs.
Union Pacific Railroad Co., \$100 and \$17.35 costs.
Chicago Great Western Railroad Co. (3 cases), \$300 and \$30.30 costs.
Seaboard Air Line Railway Co., \$100 and \$16 costs.
Richmond, Fredericksburg & Potomac Railway Co. (2 cases), \$200 and costs.
Toledo, St. Louis & Western Railroad Co., \$150 and \$16.62 costs.
Erie Railroad Co., \$250.
Cleveland, Cincinnati, Chicago & St. Louis Railroad Co., \$100 and \$13.90 costs.

Quarantine Law.

Southern Express Co., interstate shipment in violation of Texas-fever regulations, \$100 and \$11.20 costs.

Southern Railway Co., interstate shipment in violation of Texas-fever regulations, \$100 and \$25.45 costs.

MONTHLY REPORTS OF EXPENDITURES SHOULD BE MAILED PROMPTLY.

Because of the delay of a number of stations in furnishing their monthly reports of expenditures (Form T-15), attention is again called to the importance of submitting these reports promptly at the end of the month. They should reach the Washington office not later than the 5th of the following month.

REIMBURSEMENT FOR GASOLINE AND OIL FOR AUTOMOBILES.

The Auditor for the State and Other Departments, Treasury Department, has recently issued a ruling in substance as follows:

In all cases where claim is made for reimbursement for the cost of gasoline and oil used by employees when they use their own automobiles in performing official travel, the claimant must furnish a certificate showing that the quantity of gasoline and oil for which claim is made was ascertained by actual measurement of the tanks or receptacles therefor at both the beginning and the end of the official trip. The mileage of each trip also must be stated.

In order to comply with this ruling all employees are hereby notified that in every case where claim is made for reimbursement for expenses as herein enumerated they must furnish a certificate as outlined by the auditor.

PUBLICATIONS IN DECEMBER.

[The bureau keeps no mailing list for sending publications to individual employees, but publications are sent in bulk to inspectors in charge for distribution to members of their forces. The number of copies varies with the subject or nature of the publication and the number and class of employees. For example, in the case of a publication on a veterinary subject, sufficient copies are sent for the veterinarians. Inspectors in charge will use their judgment and distribute publications to best advantage. Additional copies will be furnished on request so far as possible.]

Report of the Chief of the Bureau of Animal Industry for the fiscal year ending June 30, 1916. Pp. 70.

Department Bulletin 405. Lupines as Poisonous Plants. By C. D. Marsh and A. B. Clawson physiologists, Drug Plant and Poisonous-Plant Investigations, Bureau of Plant Industry, and Hadleigh Marsh, veterinary inspector, Bureau of Animal Industry. Pp. 45, pls. 4, figs. 2.

Department Bulletin 451. The Chemical Composition of Lime-Sulphur Animal Dips. By Robert M. Chapin, senior biochemist, Biochemic Division. Pp. 16.

Department Bulletin 459. The Use of Energy Values in the Computation of Rations for Farm Animals. (A revision of Farmers' Bulletin 346.) By Henry Prentiss Armsby, director of the Institute of Animal Nutrition of The Pennsylvania State College; expert in animal nutrition, Bureau of Animal Industry. Pp. 31.

Farmers' Bulletin 780. Castration of Young Pigs. By Frank G. Ashbrook, junior animal husbandman, Animal Husbandry Division. Pp. 6, figs. 6.

Horses Imported for Breeding Purposes for which Certificates of Pure Breeding have been Issued by the Bureau of Animal Industry, 1915. Pp. 7.

Poultry Exhibit of the U. S. Department of Agriculture at the Exhibition of the New York Poultry and Pigeon Association, Madison Square Garden, New York, December 28, 1916, to January 3, 1917. Pp. 8.

The Poultry Work of the Bureau of Animal Industry, United States Department of Agriculture. Pp. 8.

ORGANIZATION OF THE BUREAU OF ANIMAL INDUSTRY.

Chief: A. D. MELVIN.

Assistant Chief: JOHN R. MOHLER.

Chief Clerk: CHARLES C. CARROLL.

Animal Husbandry Division: GEORGE M. ROMMEL, chief.

Biochemic Division: M. DORSET, chief.

Dairy Division: B. H. RAWL, chief.

Field Inspection Division: R. A. RAMSAY, chief.

Meat Inspection Division: R. P. STEDDOM, chief.

Miscellaneous Division: A. M. FARRINGTON, chief.

Pathological Division: ———, chief.

Quarantine Division: RICHARD W. HICKMAN, chief.

Zoological Division: B. H. RANSOM, chief.

Experiment Station: E. C. SHROEDER, superintendent.

Editor: JAMES M. PICKENS.

Office of Accounts: E. J. NEWMYER, in charge.

Appointment Section: IRVING W. PEW, in charge.

